

What is claimed is:

1. A method for analyzing the outer surface of an article comprising the steps of:

5 (a) obtaining a plurality of representations of different, relatively small areas of the outer surface of the article;

(b) processing the plurality of representations to generate a single representation of a relatively large area of the article; and

10 (c) analyzing the single representation of the relatively large area of the article.

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15 2. The method defined in Claim 1 wherein said step (a) is performed by obtaining qualitative information regarding the plurality of different, relatively small areas of the outer surface of the article.

3. The method defined in Claim 2 wherein said step (a) is further performed by obtaining a mathematical representation of the plurality of different, relatively small areas of the outer surface of the article.

20 4. The method defined in Claim 2 wherein said step (a) is further performed by using the quantitative information to generate a visual representation of each of the plurality of different, relatively small areas of the outer surface of the article.

25 5. The method defined in Claim 4 wherein said visual representations are two dimensional.

30 6. The method defined in Claim 4 wherein said visual representations are three dimensional.

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Cont'd

7. The method defined in Claim 1 wherein said step (a) is performed by contacting a material with the outer surface of the article so that a surface of the material acquires the same characteristics as the outer surface of the article, and obtaining a plurality of representations of different, relatively small areas of the surface of the material.

8. The method defined in Claim 7 wherein the material is a film that is applied to the article.

10 9. The method defined in Claim 1 wherein the article is generally cylindrical in shape, and wherein said step (a) is performed by obtaining a plurality of representations of different, relatively small areas extending circumferentially about the outer surface of the article.

15 10. The method defined in Claim 1 wherein said step (c) is performed by an electronic computing apparatus that has been programmed with a predetermined algorithm.

20 11. A method for analyzing the outer surface of a rotatable article to determine the presence of a preferential lead comprising the steps of:

(a) obtaining a plurality of representations of different, relatively small areas of the outer surface of the article;

(b) processing the plurality of representations to generate a single representation of a relatively large area of the article; and

25 (c) analyzing the single representation of the relatively large area of the article to determine the presence of a preferential lead.

30 12. The method defined in Claim 11 wherein said step (a) is performed by obtaining qualitative information regarding the plurality of different, relatively small areas of the outer surface of the article.

13. The method defined in Claim 12 wherein said step (a) is further performed by obtaining a mathematical representation of the plurality of different, relatively small areas of the outer surface of the article.

14. The method defined in Claim 12 wherein said step (a) is further performed by using the quantitative information to generate a visual representation of each of the plurality of different, relatively small areas of the outer surface of the article.

15. The method defined in Claim 14 wherein said visual representations are two dimensional.

16. The method defined in Claim 14 wherein said visual representations are three dimensional.

17. The method defined in Claim 11 wherein said step (a) is performed by contacting a material with the outer surface of the article so that a surface of the material acquires the same characteristics as the outer surface of the article, and obtaining a plurality of representations of different, relatively small areas of the surface of the material.

18. The method defined in Claim 17 wherein the material is a film that is applied to the article.

19. The method defined in Claim 11 wherein the article is generally cylindrical in shape, and wherein said step (a) is performed by obtaining a plurality of representations of different, relatively small areas extending circumferentially about the outer surface of the article.

20. The method defined in Claim 11 wherein said step (c) is performed by an electronic computing apparatus that has been programmed with a predetermined algorithm.

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